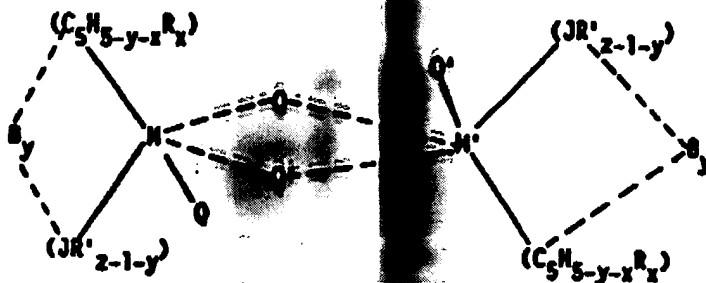


or



*CT*  
*CM*

wherein "M" is Zr, Hf or Ti;

( $C_5H_{5-y-x}R_x$ ) is a cyclopentadienyl ring which is substituted with from zero to five substituent groups "R", "x" is 0, 1, 2, 3, 4, or 5 denoting the degree of substitution, and each substituent group "R" is, independently, a radical selected from a group consisting of  $C_1-C_{20}$  hydrocarbyl radicals, substituted  $C_1-C_{20}$  hydrocarbyl radicals wherein one or more hydrogen atoms is replaced by a halogen atom,  $C_1-C_{20}$  hydrocarbyl-substituted metalloid radicals wherein the metalloid is selected from the Group IV A of the Periodic Table of Elements, and halogen radicals or ( $C_5H_{5-y-x}R_x$ ) is a cyclopentadienyl ring in which two adjacent "R" groups are joined forming  $C_4-C_{20}$  ring to give a saturated or unsaturated polycyclic cyclopentadienyl ligand;

( $JR'z-1-y$ ) is a heteroatom legand in which "J" is an element with a coordination number of three from Group V A or an element with a coordination number of two from Group VI A of the Periodic Table of Elements, and each "R'" is, independently a radical selected from a group consisting of  $C_1-C_{20}$  hydrocarbyl radicals, substituted  $C_1-C_{20}$  hydrocarbyl radicals wherein one or more hydrogen atoms is replaced by a halogen atom, and "z" is the coordination number of the element "J";

each "Q" is, independently any univalent anionic ligand or two "Q"'s are a divalent anionic chelating ligand;

"y" is 0 or 1 when "w" is greater than 0; "y" is 1 when "w" is 0;

"p" is a covalent bridging group containing a Group IV A or V A element;

"L" is a Lewis base where "w" denotes a number from 0 to 3;